FOSSpicks

Sparkling gems and new releases from the world of Free and Open Source Software

Mike Saunders has spent a decade mining the internet for free software treasures. Here's the result of his latest haul…

CD/DVD image editor

ISO Master 1.3.11

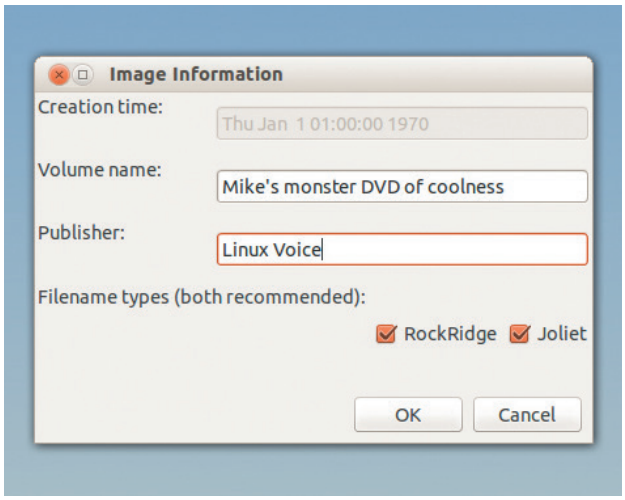
If you've ever taken a peek at the **genisoimage** or **mkisofs** manual pages, you'd be forgiven if you come away shuddering. The former is a whopping 1,596 lines long – and that's not a bad thing, because its level of detail is superb. But the number of options included in these command line CD/DVD creating tools is overwhelming, especially if you're not *au fait* with making disc images and you just want to knock together a quick backup DVD.

ISO Master aims to be a simpler and friendlier graphical alternative. But it's not just limited to basic data discs; it has options for making bootable discs with multiple filesystem formats as well. GTK 2 is used to provide the interface, so to compile ISO Master from source, you'll need the development packages installed (try **libgtk2.0-dev** under Debian/Ubuntu-based distros). Extract the **.tar.bz2** file, change into the resulting directory with **cd** and run **make** followed by **sudo make install**. Then start the program with **isomaster**.

Functional minimalism

Many disc authoring tools clog up the screen with toolbars, panels and directory trees all over the place, but ISO Master has just two panels: the top one browses your filesystem, and the bottom one browses the contents of the disc. You can open an existing ISO image by double-clicking on one in the top panel, or create a new image via the File > New menu. Click a file or directory in the top panel, then Add to add it to the DVD, or Extract to remove a file from an ISO.

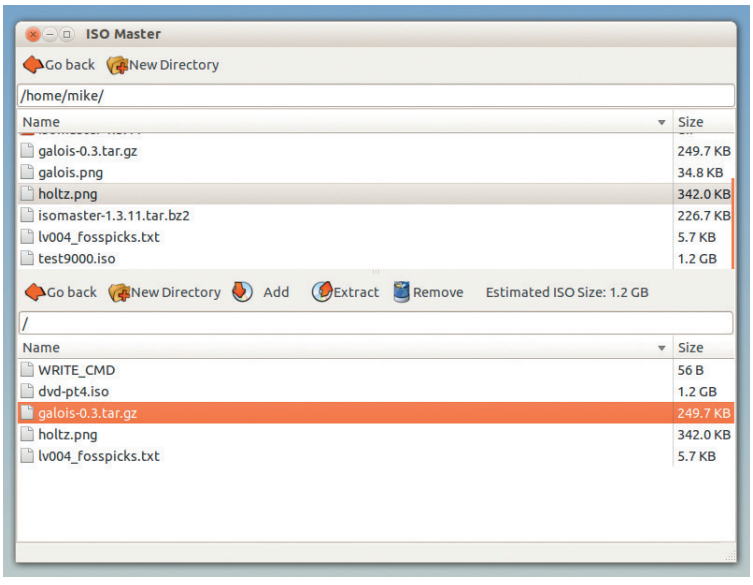
"ISO Master aims to be a simpler and friendlier graphical alternative to genisoimage and mkisofs."



Rock Ridge and Joliet filesystem extensions for CDs/DVDs provide better integration with Unix and Windows systems respectively.

To change filesystem options, go to File > Properties; there you can choose whether Rock Ridge and Joliet extensions should be enabled (a good idea, as these let discs use longer filenames), and you can also enter text for the volume name and publisher. Use the Tools > Boot Record menu to add a boot image to a disc, eg if you're making a bootable Linux distro.

When you're finished creating the disc, click File > Save As and provide a filename. ISO Master will generate **<filename>.iso**, ready to be burned to a CD/DVD-R or booted in a virtual machine such as VirtualBox. It's simple, fast and trouble-free – great work, team!



ISO Master shows the estimated size of the resulting ISO on the right-hand size, between the two panes.

PROJECT WEBSITE
www.littlesvr.ca/isomaster

Social networking client

Dianara 1.2.0

The big social networking sites, such as Facebook, Google+ and Twitter, have two major problems: they're all massively centralised, and they retain scary amounts of personal data about us. It's not all bad though. Pump.io is an example of a social networking service that is both open source and decentralised – that is, anyone can run a server that becomes part of the network. So no single company owns or controls the service, and if one machine goes down, users registered on another machine won't be affected. Anyone can set up their own Pump.io node (even on low-spec kit such as a Raspberry Pi), so if anyone is interested in a tutorial, let us know.

Anyway, Dianara is a graphical application for accessing your Pump.io account without having to go through a web browser. Its interface is built using Qt, and to install it you'll need the **qjson-devel**, **qoauth-devel** and **libmagic-devel** packages. Extract the **dianara-v1.2.0.tar.gz** archive and see the INSTALL file inside for detailed installation instructions, including a helpful list of dependencies for many popular distros.

When you first start Dianara, you'll be prompted to link it to your Pump.io account. And if you don't have one of those yet, you can get one from many different sites – we used **https://pumpit.info**. Reassuringly, the Pump.io service doesn't just let random applications connect to your account and post things (a sure source of spam), so Dianara needs a validation key and confirmation from the web interface that you want to link the program to your account.

Pump.io up the volume

Pump.io is a relatively simple service compared with the heavyweights of Facebook and Google+, and this is reflected in the application. You can post messages to your timeline (plain text, or with media attachments), follow people to see what they're up to, and click stars on posts to add them to your Favourites list. You can also add comments to posts, share them with other people, and set up lists (to separate friends from colleagues, for instance).

In all it's an attractive and newbie-friendly program that still packs in a good amount of functionality. It's also decently configurable, with options for changing how notifications work and how often the timeline should be updated. There's not much in the way of online help, although the tips are useful.

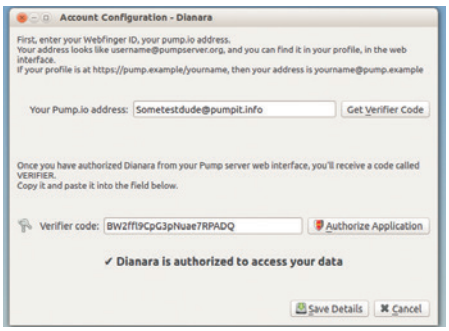
The biggest problem for Pump.io is its relatively small userbase. But it's a great system, so if we all get on Pump.io, maybe we can finally show that info-hoarding Zuckerberg fella who's boss...

Dianara crams plenty of information and widgets into its window, making better use of space than the web interface.

"Maybe we can finally show that info-hoarding Zuckerberg fella who's boss?"

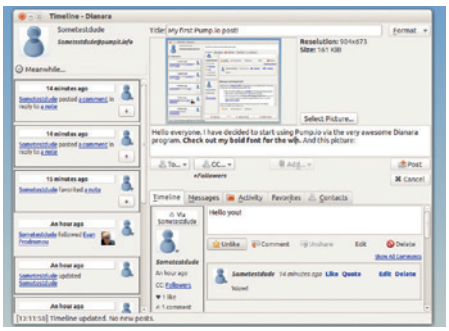
PROJECT WEBSITE
http://jancoding.wordpress.com/dianara

How it works: Get posting on Pump.io



1 Sign up
Create an account at **https://pumpit.info**, then start Dianara and link it to your account. (You will be asked to get a verification key from the site.)

2 Add contacts
Click the Contacts tab and add people you know. If you don't know anyone yet, try adding **evan@e14n.com**, aka Evan Prodromou, Pump.io's creator.



3 Post a message
Click the Timeline tab and click in the text field at the top. Give your post a title, add some text or an image, and click Post to share with your followers.

Process sandboxing tool

Firejail 0.9

Containers, virtual machines, chroot jails... There are many ways to run programs in restricted sandboxes, where they can't interfere with the rest of the system. This is great idea if you're ramping up security measures, or you're running a program from an unknown source and want to make sure it doesn't hose your distro. Setting up these sandboxes can be tricky, though – so Firejail provides an easier alternative.

Both RPM and Deb binary packages are available to download from the program's website, or you can compile it from its source code (it has no unusual dependencies and should install on any recent distro). Once you have it installed, run it along with a program like so:

```
firejail bash
```

Now, inside the new Bash shell session, enter **ps ax**. Notice something strange? Yes, there are only two processes listed – and PID 1 (which is normally **/sbin/init**) is the current Bash process. Firejail has created its own process namespace for this Bash session, so it can't poke around and discover anything else that's running. Another useful option is:

```
firejail --overlay bash
```

If you have OverlayFS enabled in your kernel, this will overlay a temporary filesystem onto the current one. So you can create and modify files inside the jailed environment, but when you access it, all of the changes are forgotten. This is great when you have programs that need to write files, but you want to revert to the original state of the filesystem when you close them.

Firejail includes various other ways to sandbox programs, like providing them with their own TCP/IP stacks, and it includes a simple monitoring tool (firemon, which shows activity in Firejail sessions). In all it's a simple and user-friendly way to run applications in restricted environments, so if you've been bamboozled with VMs, containers and chroot commands, give it a go.

```
mike@mike-megabox: ~
mike@mike-megabox:~$ cat test.txt
Just one line in this file!
mike@mike-megabox:~$ firejail --overlay bash
Parent pid 4695, child pid 4696
Interface           IP              Mask            Status

lo                  127.0.0.1       255.0.0.0       UP

eth1                192.168.1.55    255.255.255.0   UP


Child process initialized
[mike@mike-megabox ~]$ ps ax
  PID TTY      STAT   TIME COMMAND
    1 pts/3    S      0:00 bash
   49 pts/3    R+     0:00 ps ax
[mike@mike-megabox ~]$ echo "Another line" >> test.txt
[mike@mike-megabox ~]$ cat test.txt
Just one line in this file!
Another line
[mike@mike-megabox ~]$ exit
mike@mike-megabox:~$ cat test.txt
Just one line in this file!
mike@mike-megabox:~$
```

With the **--overlay** option, file changes inside a Firejail session are forgotten when the session ends.

PROJECT WEBSITE
http://l3net.wordpress.com/projects/firejail

Internet radio browser

Streamtuner2 2.1.0

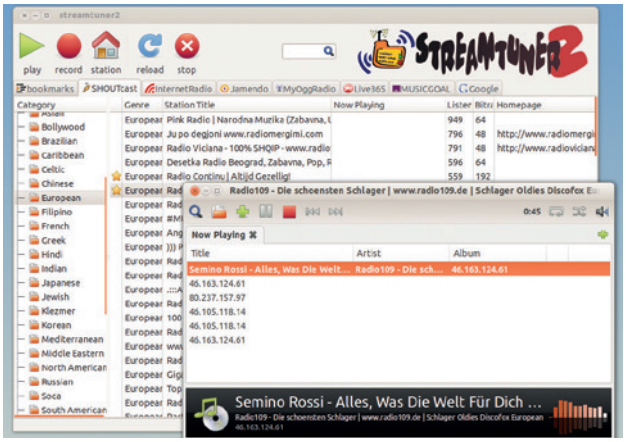
For various reasons, mostly to do with mountains and wheat beer, this author started learning German four years ago. It has been a tough ride, but one of the things that helped is the abundance of German radio stations on the internet.

There are thousands of radio stations being broadcast via the internet, and while you can access them via your browser, it's easier and faster to search via a dedicated program. Streamtuner2 is one such app: it's written in Python with GTK as its front-end, so you'll need the **pygtk** package installed to run it. Generic Deb and RPM packages are available on the project's website, and we had no problem installing the Deb on Ubuntu 13.10.

Streamtuner2 doesn't play audio itself – you'll need a standalone player such as Audacious to hear the streams. When you start Streamtuner2 for the first time, it asks you which player you want to use. Then it presents you with several internet radio station directories, some of which didn't work in our testing, which was slightly annoying. We had the most luck with the SHOUTcast and Music Goal services.

With thousands of stations to browse, across all manner of genres and languages, it can be difficult to remember your favourites. So Streamtuner2 includes a handy bookmarking system: right-click on a station and choose bookmark. You'll then find that station under the Bookmarks tab, on the far left of the tab bar.

"Streamtuner2 includes a handy bookmarking system."



Fancy some Top Albania Radio? Or perhaps some Bluegrass Jamboree? Streamtuner2 has it all.

Streamtuner2 has some rough edges in the layout and wording used in the interface, but it's still a good way to explore the vast world of internet radio.

PROJECT WEBSITE
http://milki.include-once.org/streamtuner2

Compression utility

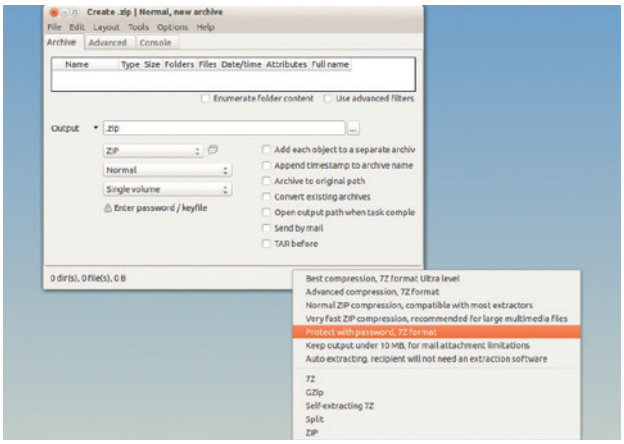
PeaZip 5.3

PeaZip is a graphical application for creating and extracting compressed archives, and as of the latest release, it supports over 150 archive formats. (Yes, 150 – that's not a typo!) Along with the usual suspects such as Zip and **.tar.gz**, the program can work with relatively obscure formats such as **.arc** and **.arj**. If you created some archives with a random piece of shareware on your Amiga back in the early 90s, chances are that PeaZip can still open them.

PeaZip can use GTK or Qt for its interface, and along with Deb and RPM packages, there are "portable" versions that can be run without installation. Just extract the **.tar.gz** file, jump into the resulting directory, and run **peazip** inside. Packaging up software to run across the myriad Linux distros out there is tiring work, so kudos to the devs for putting a lot of effort in.

PeaZip's interface is attractive, clean and largely self-explanatory, so we won't dwell on it here, but instead focus on the new features. The biggest addition in 5.3 is the Compression Profiles. Go to File > Create Archive, and in the dialog that appears, click on the down arrow to the left of the OK button. This provides some pre-created settings for compression, such as "7zip with password" or "Keep output under 10MB for email attachments". These shortcuts are very handy when you don't have time to poke around inside individual settings boxes.

"PeaZip's interface is attractive, clean and self-explanatory."


Create .zip | Normal, new archive
File Edit Layout Tools Options Help
Archive Advanced Console
Name Type Size Folders Files Date/time Attributes Full name
Enumerate folder content
Use advanced filters
Output
zip
ZIP
Normal
Single volume
Enter password / keyfile
Add each object to a separate archiv
Append timestamp to archive name
Archive to original path
Convert existing archives
Open output path when task comple
Send by mail
TAR before
0 dir(s), 0 file(s), 0 B
Best compression, 7Z format Ultra level
Advanced compression, 7Z format
Normal ZIP compression, compatible with most extractors
Very fast ZIP compression, recommended for large multimedia files
Protect with password, 7Z format
Keep output under 10 MB, for mail attachment limitations
Auto extracting, recipient will not need an extraction software
7Z
GZip
Self-extracting 7Z
Split
ZIP

Compression Profiles make it a one-click job to choose formats and options.

Also in 5.3 are improvements to the file manager (such as a better treeview sidebar), while bookmarks can be sorted. The inclusion filters that you can use when choosing which files should go in an archive are more flexible too. PeaZip just keeps getting better and better – it's an outstanding piece of work.

PROJECT WEBSITE
http://peazip.sourceforge.net

Password manager

gpgpwd 0.4

In the wake of the Heartbleed OpenSSL vulnerability most major sites and services have recommended that users change their passwords – and, of course, it's a bad idea to use the same password across multiple sites. So we've all ended up with another bunch of passwords to remember, and for those of us without incredible memories, a password manager comes in mightily useful.

gpgpwd is a great little manager written in Perl and requiring the JSON and Try-Tiny modules, which are available as **libjson-perl** and **libtry-tiny-perl** in Debian/Ubuntu-based distros. Extract the program, switch into the resulting directory and install as follows:

```
tar xfv gpgpwd-0.4.tar.bz2
cd gpgpwd-0.4
sudo make install
```

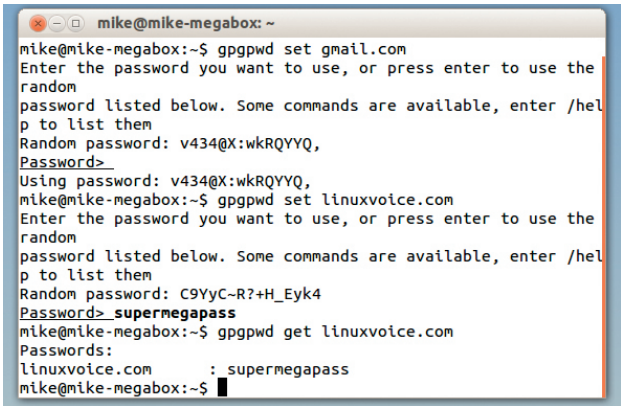
If you've used the GPG encryption tools before, you're ready to go – but if not, enter **gpg --gen-key** to create a new encryption key. You'll be prompted for a password, and this will become the master password you'll use to access other passwords via gpgpwd. To create a new entry in gpgpwd's database:

```
gpgpwd set somesite.com
```

Here, gpgpwd will ask you for a password for **somesite.com**, or offer to create a new one. A few commands are available for generating passwords: **/alphanumeric 20**, for instance, will generate a random 20-letter/number password. Hit Enter, and the password will be stored. To retrieve it in future:

```
gpgpwd get somesite.com
```

When you do this, you'll be prompted for your master password – that is, the GPG password you used during the **--gen-key** command earlier. Passwords are stored in the encrypted **.gpgpwddb** database file in your home directory, and to remove them from the database, use **gpgpwd remove** followed by the site name.


mike@mike-megabox: ~
mike@mike-megabox:~$ gpgpwd set gmail.com
Enter the password you want to use, or press enter to use the
random
password listed below. Some commands are available, enter /hel
p to list them
Random password: v434@X:wkRQYYQ,
Password>
Using password: v434@X:wkRQYYQ,
mike@mike-megabox:~$ gpgpwd set linuxvoice.com
Enter the password you want to use, or press enter to use the
random
password listed below. Some commands are available, enter /hel
p to list them
Random password: C9YyC~R?+H_Eyk4
Password> supermegapass
mike@mike-megabox:~$ gpgpwd get linuxvoice.com
Passwords:
linuxvoice.com : supermegapass
mike@mike-megabox:~$

gpgpwd is low on dependencies, uses existing tools (GPG) for security, and works without any faffing around.

PROJECT WEBSITE
http://random.zerodogg.org/gpgpwd

File integrity checker

Checkit 0.2.0

If you've ever downloaded a large file such as a distro CD/DVD ISO image, you'll probably have seen a file called MD5SUM (or SHA256SUM) to go alongside it. This contains a checksum – a sequence of characters that can be used to check the integrity of the download. This is all good, but if you need to watch the integrity of many files on your filesystem, it becomes a bit fiddly to have **foo.md5sum** and **bar.md5sum** files all over the place. And then you have to run the md5sum tool each time... Checkit makes the whole process a lot easier by embedding a checksum into a file's extended attributes (so you don't need separate files) and letting you do batch checks on multiple files.

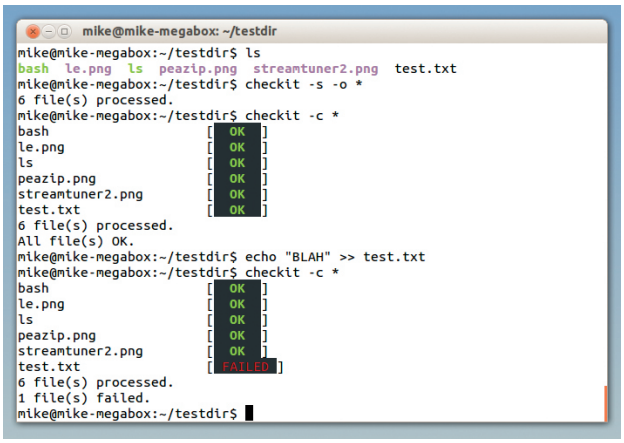
Its only dependency is **libattr1-dev**, and you install it with the usual **./configure**, **make** and **make install** (as root) procedure. Go into a directory containing files that you want to check, and run this:

```
checkit -s -o *
```

This stores and overwrites the checksum for all the files in the current directory, storing the checksums in the file's extended attributes (ie the bit of the filesystem that contains metadata about a file, such as its creation date). Your filesystem needs to have extended attribute support for this to work, but if you're using ext3/4, XFS, JFS or BTRFS you'll be fine. Now modify one of the files, and then run:

```
checkit -c *
```

This checks all files against their checksums, and shows you which files have changed.



After we've modified test.txt, Checkit gives us a red "failed" message to show that the file has changed.

> **"Chechit embeds a checksum into a file's extended attributes."**

Checkit isn't a replacement for a full-on intrusion detection system, and it's limited to certain formats and filesystems (many archive formats don't save extended attributes, for instance). But for simple jobs it works just fine.

PROJECT WEBSITE
http://dennisk.customer.netspace.net.au/checkit.html

Text editor

LE 1.15

In last issue's cover feature we gave mad props to Vim, but we appreciate that not everyone likes its mode-based operation and (initially) confusing keybindings. Emacs is a hugely powerful alternative, but it can still be tricky to learn all the Ctrl/Meta+key commands. If you've come from an MS-DOS background, you might want a more accessible editor that presents its options in familiar menus – and LE could be exactly what you need.

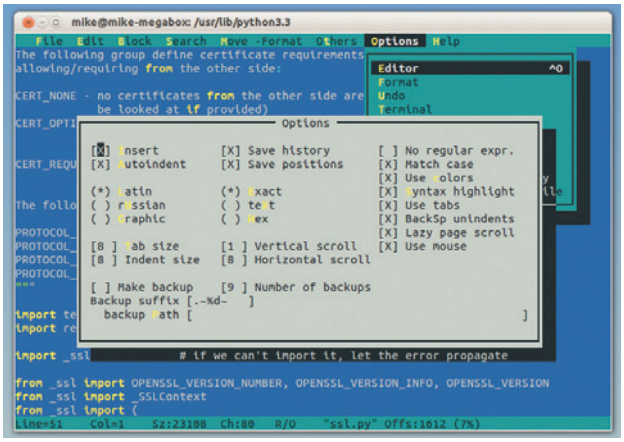
Despite having decent knowledge of C, we couldn't get past the fiddly errors that cropped up when we tried to compile LE from source, so we converted the RPM package from **http://lav.yar.ru/download/le/binaries/** to a Deb for our Ubuntu system using **alien**. This is a very handy tool for converting packages between formats. We used:

```
alien --to-deb le-1.15.0-1.x86_64.rpm
```

Along the bottom you'll see a status line containing information about the current file, while hitting F10 (or Ctrl+B) opens the menu at the top. Use the arrow keys to navigate through the menus, and enter to open them. You'll also see keyboard shortcuts in the menu – eg F2 to save, or Ctrl+F to search.

Back to the old house

LE includes all the common features you'd expect in a decent editor: syntax highlighting, search and replace with regular expressions, line and column selections (with many available operations to perform on them), UTF-* support, custom colours and more. It can be used as a hex editor (see the **-h** option), and even lets you convert between Unix and DOS-style text files (they have different line ending characters).



LE is reasonably configurable, and if you don't like the default colour scheme, others are available.

While it's not the ultimate kitchen sink editor like Emacs, it does 95% of what most people need, and the menu-based interface makes it easy to pick up.

PROJECT WEBSITE
https://github.com/lavv17/le

FOSSPICKS Brain Relaxers

Board game compilation

Holtz 1.4.0

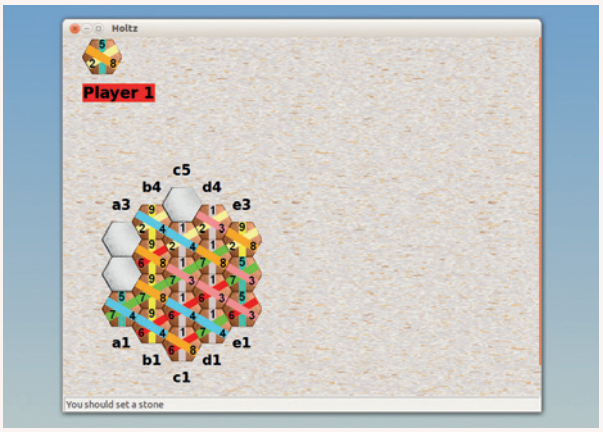
Holtz isn't a single game as such – it's an engine for four board games. And these aren't your common-or-garden board games either, but abstract strategy games that take a while to get your head around. Sadly, the README file is blank and the INSTALL file contains generic GNU build instructions from 2002, so here's how to compile it: install the wxWidgets development packages from your distro's package manager (eg **libwxgtk2.8-dev** and **wx2.8-headers**) along with Boost (**libboost-dev**). Then run **./configure**, **make** and **sudo make install**, followed by **holtzt** to start the game.

Click **File > New** in the menu to choose one of the four included games. The first, Zertz, is designed for two players, but if you're on your own, you can set up the computer as an AI player. It combines elements of draughts and solitaire, and every time you lay a piece, you remove a space on the board, so the playing area gradually gets smaller. (The rules are complicated, so click Help > Contents in the menu to get the full description.)

Game of four halves

Dvonn, meanwhile, is another two-player game, which involves stacking pieces on top of one another to control areas of the board, while Relax is a good single-player game where you have to score points by placing colour-aligned pieces. The final game, Bloks, is for two or four players and involves racing from the corners to grab as much space on the board as possible.

Holtz is a brilliant little package, and some of the games will keep you busy for hours, even if they seem rather odd at first.



This is Relax, where your goal is to place pieces so that the coloured lines extend for as long as possible.

PROJECT WEBSITE
http://holtz.sourceforge.net

Tetris variant bundle

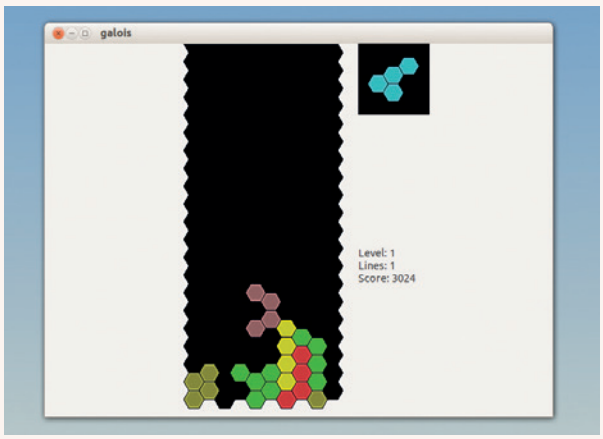
Galois 0.3

Tetris has pretty much been done to death at this point, although we still see new versions on **Freecode.com** every week. So at first we almost skipped over Galois, but then we saw the screenshots, and just had to try it. Galois is a Tetris engine that includes the classic game, but also some variants with different shapes. To compile it, you'll need GTK 2.4 and LibXML++ 2.6; in Debian and Ubuntu-based distros, these are provided in the **libgtkmm-2.4-dev** and **libxml++2.6-dev** packages.

When you start Galois, you're presented with a grand total of nothing. Just a grey screen. Click **Game > New** in the menu, however, and a version of the regular Tetris game will kick off. By default, Galois's Tetrisy games run at a fair pace, but you can change that by going to Game > Stop and then Game > Preferences (see "Initial speed level"). This is also where you'll choose a different format, such as hexagonal or triangular bricks.

I'll have a T please, Bob

We love the hexagonal version: it's similar enough to Tetris that it doesn't take long to pick up, and many of the tactics you use in the classic game still apply. The controls are as usual for Tetris, but the unusual shapes make the game different enough to exercise other neurons in your noggin, and especially difficult at times too.



What's this – Tetris? Or Blockbusters? Or some ker-azy mutant hybrid of both?

There's only one flaw: pressing Esc to pause leaves the screen intact, so you can plan your next move (the screen goes blank in most Tetris variants). We'll submit a bug report...

PROJECT WEBSITE
www.nongnu.org/galois